

Work Order ID 55488

January 19, 2010 1:34:44 PM



Page 1

Item ID: D044-715-011

Accept



Setup Start



Revision ID:

Stop



Item Name: R44 Cargo Mirror

Start Date: 1/19/10 Start Qty: 5.00



Cust Item ID:

Required Date: 1/25/10 Req'd Qty: 5.00

Customer:

Reference:

Run Start



Approvals:

Process Plan: *PL*

Date: *10-1-19*

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3243

Rev A

IIN-D044-715

Rev A

100

0.00



DOCUMENT CONTROL

DC

0.00

Document Control

Memo

Photocopy bluefile & type labels per PPPD044-715-011

CHG003

5/10/10

HJ for CL 10/03/9

(6)

110

0.00



FLOW WATER JET

Waterjet

0.00

Memo

1-Cut as per Dwg D3243

Dwg Rev: *A*

Prog Rev: *A*

FLOW CNC Waterjet

HB 10-1-21

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Start Date: 1/19/10 Start Qty: 5.00



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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

B 10-1-21

130

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

8/8 10/01/22

(X5)

P10 ->

140

NC BRAKE

0.00



Brake NC

Memo

0.00

Brake NC

Bend as per Dwg D3243

8/8 10/03/22 (5)

W/O: 55488		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
10/1/22	#130	Took Qty +1 For inspection template	S	10/1/22	*1		S 10/1/22

Part No: D044-715-011 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

150

QC6- Inspect dimensions to drawing

0.00

Solarlos

(X5)



QC

Memo

0.00

Quality Control

160

Chemical Conversion Coat per QSI005 4.1

0.00

10/03/04

(X5)



HandFinish

Memo

0.00

Hand Finishing

170

QC3- Inspect Part Finish

0.00

10-3-4

(5)



QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

180



Small Fab

Small Fab

Small Fab

Memo

Assemble as per Dwg d3243

0.00

0.00

9510/03/08 (5)

190



QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

0.00

5.0603/08

(+5)

200



Powdercoat

Powder Coating

Black Sandtex(Ref:4.3.5.7) per QSI005 4.3

Memo

plug holes with screws before powdercoat

0.00

0.00

M105642

→ 10/03/08

(x5) Ø

START TIME: 1:15pm
OVEN TEMPERATURE: 320°F
FINISH TIME: 1:45pm

W/O:		WORK ORDER CHANGES						
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Reference:

Accept



Setup Start



Stop



Cust Item ID:

Customer:

Run Start



Stop



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

210



QC

Quality Control

QC3- Inspect Part Finish

Memo

0.00

0.00

8.06310

(X5)

220



Packaging

Packaging

Pick Kit

Memo

0.00

0.00

10-3-10 54 (54)

230



QC

Quality Control

QC4- 100% Inspect kits for completeness

Memo

0.00

0.00

8.06310

(54)

W/O:		WORK ORDER CHANGES						
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Required Date: 1/25/10 Req'd Qty: 5.00

Reference:

Accept



Setup Start



Stop



Cust Item ID:

Customer:

Run Start



Stop



Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

240



Packaging

Packaging

Operation
Description

Packaging

Set Up/
Run Hours

0.00

0.00

Draw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Memo

Identify and pack for shipping as per PPP D044-715-011

Location: _____

QC21- Final Inspection - Work Order Release

0.00

0.00

Memo

250



QC

Quality Control

10-3-11 SP (50)

10/03/11 MF 10-3-11

W/O:		WORK ORDER CHANGES						
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Picklist Print

January 19, 2010 1:34:48 PM

Work Order ID: 55488

Parent Item: D044-715-011

Parent Item Name: R44 Cargo Mirror

Comments: IPP Rev:A 04.02.18 New issue KJ/JLM
 IPP Rev:B 06-04-28 Manufactured on Water Jet JLM
 IPP Rev:C 08-06-10 as per ECN1195p DD verified by:EC

Start Date: 1/19/10

Required Date: 1/25/10

Start Qty: 5.00

Required Qty: 5.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
M6061T6S.063		Purchased	No			110	sf	319.3657	2.6863	3.3		



6061-T6 .063 Sheet

HB 10-1-08

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

MAT

319.3657211

110551

28.7841211

112939

2.5816

113608

288

180

Each

121.0000

20.0000

110551

9/5/10/03/08

FE-032-EF



Inserts

Purchased

No

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

121

108546

21

110836

100

230

Each

29.0000

10.0000

20

10-3-10 sub

D1048



Saddle

Manufactured

No

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST10

29

55027

29

55027 10A

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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January 19, 2010 1:34:48 PM

Work Order ID: 55488

Parent Item: D044-715-011

Parent Item Name: R44 Cargo Mirror

Comments: IPP Rev:A 04.02.18 New issue KJ/JLM
IPP Rev:B 06-04-28 Manufactured on Water Jet JLM
IPP Rev:C 08-06-10 as per ECN1195p DD verified by:EC

Start Date: 1/19/10

Required Date: 1/25/10

Start Qty: 5.00

Required Qty: 5.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D1049		Manufactured	No			230	Each	25.0000	10.0000			



Saddle

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST002

5

53485

5

Main Warehouse

ST10

20

55028

20

Manufactured No

230

Each

8.0000

5.0000

D2010-104



Mirror Arm 369/500

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

8

40046

8

Manufactured No

230

Each

20.0000

5.0000

D2011-101



6" Mirror

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

20

53992

20

January 19, 2010 1:34:48 PM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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January 19, 2010 1:34:48 PM

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Comments: IPP Rev:A ☐ 04.02.18 ☐ New issue ☐ KJ/JLM ☐
 IPP Rev:B 06-04-28 Manufactured on Water Jet JLM
 IPP Rev:C 08-06-10 as per ECN1195p DD verified by:EC

Start Date: 1/19/10

Required Date: 1/25/10

Start Qty: 5.00

Required Qty: 5.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
AN3-4A 		Purchased	No			230	Each	2,025.000	20.0000			

Bolt

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST	2025	
104214	466	
104291	300	
104322	200	
104374	200	
104625	300	
104817	559	

10-3-10 *sf*

AN526C1032R10 

Purchased

No

230 Each

494.0000 20.0000

Screw

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST	494	
108062	123	
108167	35	
110049	336	

10-3-10 *sf* (5x)

January 19, 2010 1:34:48 PM

Shop Packet Print

Page 3

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Page 4

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Comments: IPP Rev:A 04.02.18 New issue KJ/JLM
IPP Rev:B 06-04-28 Manufactured on Water Jet JLM
IPP Rev:C 08-06-10 as per ECN1195p DD verified by:EC

Start Date: 1/19/10

Required Date: 1/25/10

Start Qty: 5.00

Required Qty: 5.00

Component Item ID/ ALS4-1032-130	Replacement	Mfg/ Purchased	Bin No	Primary	Last	Route 230	Unit of Each	Qty on 2,651.000	Remaining 20.0000	Qty	Date	Status
												
Insert											10-3-10	

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

2651

110511

2651

230

Each

4,213.000

20.0000

20

10-3-10

20

AN960JD10L

Purchased

No

Washer

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

4213

101291

16

105793

49

110985

4148

20

January 19, 2010 1:34:48 PM

Shop Packet Print

Page 4

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

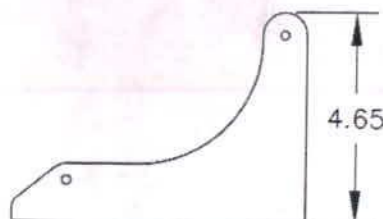
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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DART

DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D3243	REV. A SHEET 1 OF 1
DATE 04.01.09	TITLE BRACKET	SCALE 1:2	
A	04.01.09	NEW ISSUE	SHOP COPY

RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 55486
PA10-H9



R0.188 (TYP)



D3243-1 BEND DETAIL/
D3243-041 ASSEMBLY
SCALE 1:4

INSTALL
FE-032-EF INSERTS
(4 PLACES)

2.75 $+0.030$
0.000

8.581
8.206
7.706

4.214
R0.25 (TYP)

3.339
R0.38 (TYP)

D3243-041 BRACKET ASSEMBLY (D3243-1 BRACKET)

- 1) MATERIAL: 6061-T6, 0.063 THICK
(QQ-A-250/11, REF DART SPEC
M6061T6S.063)
- 2) FINISH: CHEMICAL CONVERSION COAT
PER DART QSI 005 4.1
POWDER COAT BLACK (4.3.5.7) PER
DART QSI 005 4.3
- 3) BREAK ALL SHARP EDGES 0.005 TO
0.010
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) TOLERANCES ARE PER DART QSI 018
UNLESS OTHERWISE NOTED

6.560
5.810
5.360

D3243-1
FLAT PATTERN

R2.75
(TYP)

R0.50
(TYP)

11.920
11.420

Ø0.201
(TYP 4
PLACES)

Ø0.290
(TYP 4
PLACES)

1.375

5.273

3.714

0.500

0.000

0.750
0.500
0.000

GRAIN
DIRECTION

RELEASED
04.02.03 *#*

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REFERENCE ONLY**32.2 CARGO MIRROR REMOVAL**

- 32.2.1 Remove the AN3 bolts securing the D3243-041 Bracket to the skidtube and remove the Cargo Mirror.
- 32.2.2 Reinstall the AN3-4A bolts in the inserts. The bolts should be sealed with Sikaflex-241/-291 or Proseal 890 or MIL-S-8802 Class 'B2' sealant before installing.

32.3 WEIGHT AND BALANCE

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D044-715-011 Cargo Mirror Installation	1.3 lb 0.59 kg	41.7 in 1.06 m	54.2 lb-kG 0.63 m-kG	32.0 in 0.81 m	41.6 in-lb 0.48 m-kG

32.4 PARTS LIST

Qty	Part Number	Description
X	D044-715-011	CARGO MIRROR INSTALLATION
2	D1048	Clamp
2	D1049	Saddle
1	D2010-104	Arm
1	D2011-101	Mirror
1	*D3014-1	Locknut
1	D3243-041	Bracket
4	ALS7-1032-130	Insert (or AKS7-1032-130, AKS4-1032-130, ALS4-1032-130)
4	AN3-4A	Bolt
4	AN526C1032R10	Screw (or AN526-1032R10)
4	AN960JD10L	Washers
1	*AN960JD416L	Washer

* PARTS ARE INCLUDED WITH D2011-101 MIRROR

TC Accepted**MAR 31 2004**

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